HONGCHEN METAL
INDUSTRIAL METAL MATERIALS

PRODUCT DATA SHEET
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PRODUCT SPECIFICATIONS · PLATE

Stainless Steel 316 Plate

Chemical composition, mechanical properties and material characteristics

Features

- 316 stainless steel also contains 2-3% molybdenum, in addition to iron, chromium and nickel.
- The addition of molybdenum significantly improves the performance of 316 stainless steel in certain corrosive environments, especially those containing chlorides.
- 316 stainless steel is more commonly used in situations requiring higher corrosion resistance.

Typical Applications

- Widely used in high temperature and electrical industry, medical equipment construction, chemical, food industry, agriculture and ship parts, food and beverage packaging, Kitchen supplies, trains, airplanes, conveyor belts, vehicles, bolts, nuts, springs and screens, etc.

Product Parameters

Product Name	316 Stainless Steel Plate
Type	Corrosion-Resistant Alloy / Stainless Steel
Standard	ASTM, AISI, JIS, GB, DIN, EN, etc.
Surface	BA, 2B, No.1, No.4, HL, 8K / polished, pickled or passivated as required.
Delivery Condition	Annealed / solution annealed; other tempers available by agreement.
Scope of Application	Widely used in high temperature and electrical industry, medical equipment construction, chemical, food industry, agriculture and ship parts, food and beverage packaging, Kitchen supplies, trains, airplanes, conveyor belts, vehicles, bolts, nuts, springs and screens, etc.
Certificate	ISO / SGS / BV and EN 10204 3.1 MTC available; third-party inspection and PMI can be arranged per purchase order.
Production Technology	Hot rolling or cold rolling / drawing according to product form; solution treatment and pickling / passivation applied where corrosion performance or surface quality require it. Cut-to-length, leveling, plasma / waterjet cutting and surface grinding available.
Edge Processing	Mill, slit or trimmed edge; final edge condition confirmed by thickness, width tolerance and downstream welding / forming needs.
Thickness	0.3mm-200mm
Length	2000mm, 2438mm, 3000mm, 5800mm, 6000mm, 12000mm, etc.
Width	40mm-600mm , 1000mm , 1219mm , 1500mm , 1800mm , 2000mm , 2500mm , 3000mm , 3500mm , etc.

Chemical Composition

C	Si	Mn	Cr	Ni	S	P	Mo
≤ 0.03	≤ 0.75	≤ 2.0	16.0～18.0	10.0～14.0	≤ 0.03	≤ 0.045	2.0～3.0

Mechanical Properties

Tensile Strength Kb (MPa)	Yield Strength σ0.2 (MPa)	Elongation D5 (%)	Hardness
≥480	≥177	≥40	≤187HB;≤90HRB;≤200HV

Physical Performance

Density(g/cm³)	Modulus of Elasticity(Gpa)	Coefficient of Thermal Expansion(10 -6 /°C)	Coefficient of Thermal Conductivity(W/m * K)	Resistivity(MΩ. cm)
7.99	193	1 6.0	16.2	74

Surface Selection

Name	Surface	Features	Use
Original Surface	NO.1	Silver white	Industrial tanks, chemical industry equipment, etc., thicker by the mm-10.0mm of 3.0. Uses that do not require a surface gloss
		Matte	
Nlunt Surface	2D	Slightly shiny silvery white	Used for deep drawing processing, such as automobile components, water pipes, etc. General materials, deep drawing materials
Fog Surface	2B	Silver white with better gloss and flatness than 2D surface 0.39 micron roughness	Such as tableware, building materials, etc. After surface treatment to improve mechanical properties, almost all applications are satisfied.
Frosted Surface	NO.3	Has a good gloss, with discontinuous rough	Used for building interior and exterior decoration materials, electrical products and kitchen equipment.
Frosted Surface	NO.4	Has a better gloss, with discontinuous rough, stripes than NO. 3 fine	Used for baths, building interior and exterior decoration materials, electrical products, kitchen equipment and food equipment.
Frosted Surface	NO.240	Has a better gloss, with discontinuous rough, stripes than NO. 4 fine	Used for bathroom, building interior and exterior decoration materials, electrical products, kitchen equipment and food equipment.
Frosted Surface	NO.320	Has a good gloss, with discontinuous rough	Building Materials, Kitchenware
Frosted Surface	NO.400	Has a good gloss, with discontinuous rough	Building materials, kitchen utensils, food equipment, etc.
Brushed Surface	HL	Silver gray with hairline stripes on the 2D or 2B product with the appropriate particle size abrasive material polished to make the surface continuous grinding pattern	Mainly used in architectural decoration, elevators, building doors, panels, etc.
Bright Surface	BA	Excellent surface gloss with high reflectivity	Used for home appliances, mirrors, kitchen equipment, decorative materials, etc.
Mirror	6K	Not much worse than a mirror.	Mirror, trim panel
Mirror	8K	Like a mirror.	Mirror, trim panel

Selection note: match grade to medium, temperature, chloride level and whether as-welded corrosion service is required.

Related Properties

Corrosion Resistance	Molybdenum addition improves pitting and crevice resistance versus 304 in many chloride-bearing mild-to-moderate media, coastal atmospheres and chemical process streams. Seawater and strong reducing acids still need case-by-case confirmation.
Formability	Most austenitic corrosion grades form well by bending, rolling, deep drawing and stamping when tooling radii, lubrication and springback are set for the thickness and temper. Work hardening raises strength during cold work; intermediate anneal may be needed for severe multi-stage forming.
Weldability	Generally weldable with common fusion processes. For as-welded corrosive service, prefer low-carbon (L) or stabilized grades, control heat input, and specify filler that preserves corrosion resistance in the weld metal and HAZ. Post-weld cleaning and passivation improve finished performance.
Surface & Cleanliness	Final corrosion behavior is strongly affected by surface finish, free iron contamination and weld discoloration. Pickling, passivation or electropolishing after fabrication is often as important as grade selection for sanitary, marine and chemical equipment.
Selection Notes	Common upgrade from 304 when chlorides or chemical exposure increase. Prefer 316L for welded corrosive service; consider duplex or 6Mo grades if pitting risk remains high.

Material guidance for your next project

Send your grade, size and application requirements to our team.

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